

REMARKS

Claims 1-24 are pending. By this Amendment, claims 1, 3-6, 9, 11, 12, 14 and 16-18 are amended. The claims are amended in order to correct punctuation and to correct typographical errors. Applicants submit that the above amendments do not narrow the claims.

Applicants note with appreciation the identification of allowable subject matter in claims 6, 7 and 12. Applicants respectfully submit that all pending claims are in condition for allowance for at least the reasons set forth below.

Claims 1-3 stand rejected under 35 U.S.C. §103(a) over U.S. Patent No. 5,764,285 to Ochi et al. in view of U.S. Patent No. 5,485,202 to Ueda. This rejection is respectfully traversed.

With respect to independent claim 1, the Office Action asserts that line sensor 11 of Ochi et al. corresponds to the claimed "image-capturing device for photographing", and that area sensor 12 of Ochi et al. corresponds to the claimed "image-capturing device for scene analysis." The Office Action recognizes that Ochi et al. fails to disclose the claim 1 gain calculation unit and gain adjustment unit, but asserts that such features would have been obvious in view of Ueda-202. Applicants respectfully submit that the Office Action relies upon impermissible hindsight in making this rejection, and furthermore that neither of the applied references discloses or suggests the combination of features recited in independent claim 1.

Independent claim 1 recites that the gain calculation unit "calculates gain by using at least either image data corresponding to a large area of said image-capturing device for scene analysis or image data corresponding to a small area of said image-capturing device for scene analysis" and that the gain adjustment unit "performs gain adjustment by applying said gain calculated at said gain calculation unit to the image data output by said image-capturing device for photographing." Thus, independent claim 1 recites that image data from the scene analysis

image-capturing device is used to calculate a gain, which then is used to adjust the image data output by the photographing image-capturing device.

Ochi et al. increases the resolution of the image captured by area sensor 12 by using a line sensor 11. Line sensor 11 is used to obtain luminance (or brightness) data, and area sensor 12 is used to obtain color data. See col. 4, line 47 - col. 5, line 22. The outputs of each of the sensors 11 and 12 then are synthesized to make composite data. See, for example, col. 5, lines 23-41. Thus, Ochi et al. does not disclose or suggest using data from one of the sensors (11 or 12) to set the gain that is to be used with the data of the other sensor (12 or 11). Furthermore, Ochi et al. appears to disclose that the quantizing units 131 and 132 (shown in Fig. 3) perform shading correction and black-level adjustment for the signals output by the respective sensors 11 and 12. See, for example, col. 4, lines 48-56 and col. 4, line 66 - col. 5, line 5. Thus, there is no reason to further modify Ochi et al. so that the output of sensor 12 is used to set a gain that is used with the output of sensor 11, as asserted in the Office Action.

Moreover, Ueda-202 does not disclose or suggest the claim 1 gain calculation unit that uses at least either image data corresponding to a large area or image data corresponding to a small area to calculate a gain. Ueda-202 specifically teaches dividing a "frame of picture" into a total number of windows that remains unchanged. See, for example, col. 2, lines 47-48 and col. 6, lines 54-56 of Ueda-202. In Ueda-202, the frame of picture is divided into a fixed number of windows (whose size thus does not change), and then varies a multiplication factor that is used for each of the windows. See, for example, col. 2, lines 39-48, col. 4, lines 25-54 and col. 6, lines 44-56. In discussing the prior art at col. 2, lines 15-38, Ueda-202 discusses the disadvantages of using a large window size (col. 2, lines 15-19) and the disadvantages of using a small window size (col. 2, lines 22-25), but Ueda-202 does not indicate that the prior

art selectively uses either a large window size or a small window size as recited by the gain calculation unit of claim 1.

Thus, even if Ueda-202 is combined with Ochi et al., the combination of features recited in independent claim 1 does not result. Claims 2 and 3 are patentable for at least the same reasons set forth above with respect to independent claim 1 from which they depend. Withdrawal of the rejection is requested.

Claim 4 stands rejected under 35 U.S.C. §103(a) over the references applied against claim 2, and further in view of U.S. Patent No. 5,210,600 to Hirata. This rejection is respectfully traversed. Claim 4 is patentable for at least the reasons set forth above with respect to independent claim 1, from which claim 4 ultimately depends. Withdrawal of the rejection is requested.

Claims 5 and 11 stand rejected under 35 U.S.C. §103(a) over Ochi et al. in view of Hirata. This rejection is respectfully traversed.

As discussed above, there is no reason or suggestion to modify the structure of Ochi et al. such that the image data from one of the sensors (11 or 12) is used to calculate the gain that is used for the data signal output from the other sensor (12 or 11), as is asserted in the Office Action. Ochi et al. discloses synthesizing the data output from each of the sensors, and appears to perform black-level adjustment on the outputs of each sensor without using data from the other sensor. Accordingly, there is no reasons or motivation to modify Ochi et al. to result in the combination of features recited in independent claims 5 and 11.

Moreover, Hirata does not disclose or suggest the claim 11 conversion unit that converts image data in a predetermined area of said image-capturing device for scene analysis to color data in either a first color-related coordinate system or a second color-related coordinate system, and the claim 11 gain calculation unit that calculates gain based upon the color data resulting from such a conversion. The Office Action refers to col. 11, lines 15-25

of Hirata for this feature; however that portion of Hirata (as well as Hirata as a whole) does not teach or suggest converting image data into either a first color-related coordinate system or a second color-related coordinate system. Only one coordinate system is disclosed in Hirata.

Withdrawal of the rejection of claims 5 and 11 is requested.

Claims 8-10 and 13-15 stand rejected under 35 U.S.C. §103(a) over the references applied against claims 5 and 11, and further in view of U.S. Patent No. 5,900,860 to Ueda. This rejection is respectfully traversed. Claims 8-10 and 13-15 are patentable for at least the reasons set forth above with respect to their corresponding independent claims 5 and 11.

Withdrawal of the rejection is requested.

Claim 16 stands rejected under 35 U.S.C. §103(a) over Ochi et al. in view of Hirata and further in view of Ueda-202. This rejection is respectfully traversed.

For at least the reasons set forth above with respect to independent claim 1, there is no reason or motivation to modify Ochi et al. such that the image data of one of the sensors (11 or 12) is used to calculate the gain that is used with the image data output by the other one of the sensors (12 or 11), as is asserted in the Office Action.

Moreover, independent claim 16 is patentable for the additional reasons set forth above with respect to independent claims 1 and 11. That is, neither Ochi et al., Hirata nor Ueda-202 discloses or suggest the claim 16 conversion unit that converts image data into unit areas having either a first specific number of pixels or a second specific number of pixels that is smaller than the first specific number, and that uses either a first color-related coordinate system or a second color-related coordinate system. Withdrawal of the rejection of claim 16 is requested.

Claims 17-19 stand rejected under 35 U.S.C. §103(a) over the references applied against claim 16, and further in view of Ueda-860. This rejection is respectfully traversed.

Claims 17-19 are patentable for at least all of the reasons set forth above with respect to their corresponding independent claim 16. Withdrawal of the rejection is requested.

Claims 20, 23 and 24 stand rejected under 35 U.S.C. §103(a) over Ochi et al. in view of U.S. Patent No. 5,541,649 to Yamamoto et al. This rejection is respectfully traversed.

In rejecting these claims, the Office Action asserts that the Ochi et al. line sensor 11 corresponds to the claimed image-capturing device, and that element 15 of Ochi et al. corresponds to the claimed color temperature detection unit. After reviewing the specification and drawings of Ochi et al., Applicants' undersigned attorney has not located any element 15 in Ochi et al. Thus, it is not known what is being referred to in the Office Action. In any event, if the Office Action intended to refer to area sensor 12 as the color temperature detection unit, then, as discussed above with respect to independent claim 1, Ochi et al. does not use the output of sensor 12 to set the gain that is to be used with the image data of line sensor 11.

Moreover, Yamamoto et al. does not disclose or suggest the claim 20 gain calculation unit "that detects skin color based on the color temperature information detected by said color temperature detection unit for a predetermined area in a photographic field to calculate gain by using the skin color." Yamamoto et al. expressly teaches using only white areas, and not using skin color areas, in order to calculate the gain. In particular, Yamamoto et al. teaches using the second white detection area illustrated in Fig. 3 when outdoor lighting is used so that white balance gain control is done with respect to purer white colors, and not with "light yellow, light green and white skin-toned" areas. See, for example, col. 6, lines 46-56 of Yamamoto et al. Accordingly, even if Ochi et al. and Yamamoto et al. are combined, the combination of features recited in claim 20 does not result.

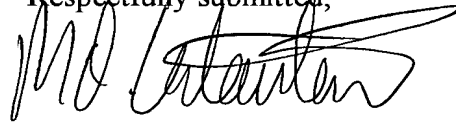
Accordingly, claim 20 is patentable over Ochi et al. and Yamamoto et al. Claims 23 and 24 depend from claim 20, and thus are patentable for at least the same reasons as claim 20. Withdrawal of the rejection is requested.

Claims 21 and 22 stand rejected under 35 U.S.C. §103(a) over the references applied against claim 20, and further in view of JP-A-6-121332 (Sugiura et al.). This rejection is respectfully traversed. Claims 21 and 22 are patentable for at least all of the reasons set forth above with respect to claim 20. Withdrawal of the rejection is requested.

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



Mario A. Costantino
Registration No. 33,565

MAC/ccs

Attachment:

Petition for Extension of Time

Date: September 17, 2004

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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